



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/572,675

03/20/2006

Tsuyoshi Kanda

P71175US0

4430

136 7590 04/11/2008

JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

LEE, GILBERT Y

ART UNIT

PAPER NUMBER

3673

MAIL DATE

DELIVERY MODE

04/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,675	Applicant(s) KANDA, TSUYOSHI	
	Examiner GILBERT Y. LEE	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/12/08 has been entered.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear to the examiner as to whether the applicant is claiming the only the subcombination of a sealing apparatus, as the preamble suggests, or if the applicant is claiming the combination of a sealing apparatus, a shaft and a housing, as the body of the claims suggest. If the applicant wishes to claim the combination, the preamble of the claims must be amended to recite a combination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Hadaway (US Patent No. 3,923,315).

Regarding claim 1, the Hadaway reference discloses a sealing apparatus (e.g. Fig. 1) for sealing an annular gap (e.g. gap between housing and shaft) between a shaft and a housing (e.g. housing that would be in contact with element 6) that are relatively rotated, the sealing apparatus comprising

a seal lip (e.g. 4) extending toward a sealing fluid side (Fig. 1) to be in sliding contact with a surface of the shaft (Fig. 2),

a projection (e.g. 7 and 8) disposed at a root of the seal lip (Fig. 2), a distance between a surface of the projection and a center of the shaft being slightly larger than a radius of the shaft (Fig. 2), and

at least a part of a side surface of the projection exhibiting a suction function of returning fluid that has leaked from a seal lip tip end to the sealing fluid side when the shaft and the housing are relatively rotated (Col. 2, Line 66 - Col. 3, Line 2), the projection including and extending between a set of side surfaces (Figs. 1-6), the side surfaces of one projection and an adjacent projection defining a triangular shaped recess (e.g. 11 and 12) located between the projection and the adjacent projection with the recess pointing down towards the seal tip end (Figs. 1-6).

Regarding claim 3, the Hadaway reference discloses one of the side surfaces the projection exhibits the suction function when the shaft and the housing are relatively rotated in a first direction, and the other one of the side surfaces exhibits the suction function when the shaft and the housing are relatively rotated in a second direction opposite to the first direction (Col. 2, Line 66 - Col. 3, Line 2).

5. Claims 2 and 4, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Sink (US Patent No. 5,511,886).

Regarding claim 2, the Sink reference discloses a sealing apparatus (Fig. 6) for sealing an annular gap (e.g. gap between 14 and 42) between a shaft (e.g. 42) and a housing (e.g. 14) that are relatively rotated, the sealing apparatus comprising

a seal lip (72) extending toward a sealing fluid side to be in sliding contact with a surface of the shaft (Fig. 6),

an annular portion (70) projecting out more to the sealing fluid side than the seal lip (Fig. 6), and

the annular portion including a projection (e.g. 74), a distance between a surface of the projection and a center of the shaft being slightly larger than a radius of the shaft (e.g. shown by d in Fig. 6), and

at least a part of a side surface of the projection exhibiting a suction function of returning fluid that comes in to the inner circumference side of the annular portion to the sealing fluid side when the shaft and the housing are relatively rotated (Col. 4, Lines 46-67), the projection including and extending between a set of side surfaces (Fig. 5), the side surfaces of one projection and an adjacent projection defining a triangular shaped recess (Fig. 5) located between the projection and the adjacent projection with the recess and pointing down towards the seal tip end (Fig. 5).

Regarding claim 4, the Sink reference discloses one of the side surfaces of the projection exhibits the suction function when the shaft and the housing are relatively rotated in a first direction, and the other one of the side surfaces exhibits the suction function when the shaft and the housing are relatively rotated in a second direction opposite to the first direction (Col. 6, Lines 11-20).

Response to Arguments

6. Applicant's arguments filed 3/12/08 have been fully considered but they are not persuasive.

With regards to the applicant's argument of a slight gap intervening between the surface of the projection and the shaft surface, the argument is not persuasive because the claims only require a surface of the projection and a center of the shaft being slightly

Art Unit: 3673

larger than a radius of the shaft and clearly both the Hadaway and Sink references teach “a surface” of the projection (i.e. a surface furthest away from the shaft) that is slightly larger than a radius of the shaft. Furthermore, if the seals of the Hadaway and Sink references were used with a different sized shaft, then the whole projection could be slightly larger than a radius of the shaft.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GILBERT Y. LEE whose telephone number is (571)272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 3673

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/
Supervisory Patent Examiner,
Art Unit 3673

/G. Y. L./
Examiner, Art Unit 3673